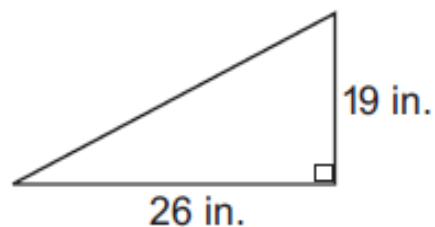


1.

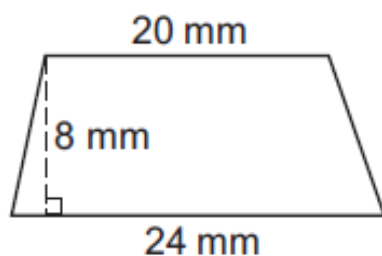


$$A = \frac{1}{2}bh$$

$$A = \frac{1}{2}(26)(19)$$

$$A = 247$$

2.



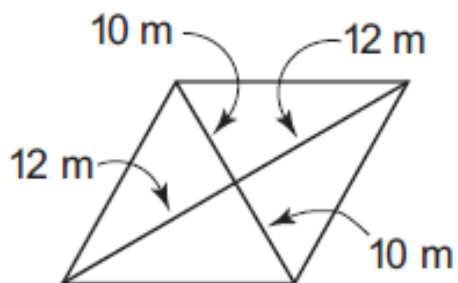
$$A = \frac{1}{2}h(b_1 + b_2)$$

$$= \frac{1}{2}(8)(20 + 24)$$

$$= \frac{1}{2}(8)(44)$$

$$= 176$$

3.

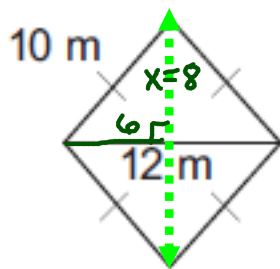


$$A = \frac{1}{2} d_1 d_2$$

$$A = \frac{1}{2} (24)(20)$$

$$= 240$$

4.



$$a^2 + b^2 = c^2$$

$$x^2 + 36 = 100$$

$$-36 \quad -36$$

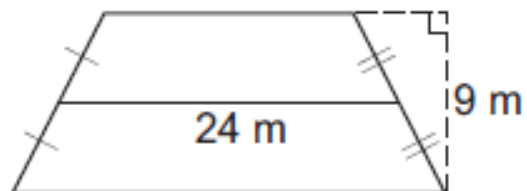
$$x^2 = 64$$

$$x = 8$$

$$A = \frac{1}{2} (12)(16)$$

$$= 96$$

5.



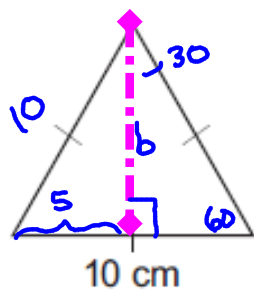
$$m = \frac{1}{2}(b_1 + b_2)$$

$$A = \frac{1}{2}h(b_1 + b_2)$$

$$A = hm$$

$$A = 9 \cdot 24 \\ = 216$$

6.



$$b = a\sqrt{3}$$

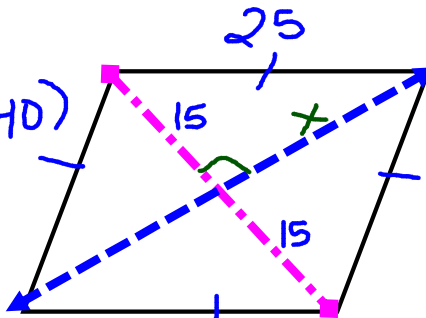
$$b = 5\sqrt{3}$$

$$A = \frac{1}{2}(10)(5\sqrt{3}) \\ = 25\sqrt{3}$$

7. The area of a triangle is 150 square inches. If the height is 20 inches, find the length of the base.

$$\begin{aligned}
 A &= \frac{1}{2}bh \\
 \frac{150}{20} &= \frac{1}{2}b \cdot \frac{20}{20} \\
 2 \cdot 7.5 &= \frac{1}{2}b \cdot 2 \\
 15 &= b
 \end{aligned}$$

8. A rhombus has a perimeter of 100 meters and a diagonal 30 meters long. Find the area of the rhombus.

$$\begin{aligned}
 A &= \frac{1}{2}d_1d_2 \\
 &= \frac{1}{2}(30)(40) \\
 &= 600
 \end{aligned}$$


$$\begin{aligned}
 225 + x^2 &= 625 \\
 -225 &\quad -225 \\
 x^2 &= 400 \\
 x &= 20
 \end{aligned}$$

1. The area of a triangle is 216 square units. If the height is 18 units, what is the length of the base?

$$\begin{aligned} A &= \frac{1}{2}bh \\ 216 &= \frac{1}{2}b(18) \\ \frac{216}{9} &= \frac{9b}{9} \\ 24 &= b \end{aligned}$$

2. The diagonals of a rhombus are 21 and 16 centimeters long. Find the area of the rhombus.

$$\begin{aligned} A &= \frac{1}{2} \cdot 21 \cdot 16 \\ &= 168 \end{aligned}$$

3. The area of a trapezoid is 80 square units. If its height is 8 units, find the length of its median.

$$\frac{80}{8} = \frac{8m}{8}$$

$$10 = m$$

$$A = \frac{1}{2}h(b_1 + b_2)$$

$$A = hm$$

4. The height of a trapezoid is 9 cm. The bases are 8 cm and 12 cm long. Find the area.

$$A = \frac{1}{2}h(b_1 + b_2)$$

$$A = \frac{1}{2} \cdot 9 \cdot (8 + 12)$$

$$= \frac{1}{2} \cdot 9 \cdot (20)$$

$$= 90$$

5. A trapezoid has an area of 908.5 cm^2 . If the altitude measures 23 cm and one base measures 36 cm, find the length of the other base.

$$\begin{aligned}
 A &= \frac{1}{2} h(b_1 + b_2) \\
 908.5 &= \frac{1}{2} \cdot 23 \cdot (36 + b_2) \\
 \frac{908.5}{11.5} &= \frac{11.5}{11.5} (36 + b_2) \\
 79 &= 36 + b_2 \\
 -36 &\quad -36 \\
 43 &= b_2
 \end{aligned}$$

6. The measure of the consecutive sides of an isosceles trapezoid are in the ratio 8:5:2:5. The perimeter of the trapezoid is 140 inches. If its height is 28 inches, find the area of the trapezoid.

